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DATE: April 2, 2007

TO: Minerals Regulatory Program File

FROM: Beth Ericksen - Mining  initial

SUBJECT: 2007 Reclamation Surety Costs for Small Mining Operations and Exploration Including Small Mine Three and Five Year Escalation

The reclamation surety amounts of \$5250 for the first acre and \$3150 for each additional acre calculated for the year 2006 was an average cost to reclaim sites with similar attributes (i.e. no structures, leach pads). Costs are escalated annually to allow for inflation using the Average Means Historical Cost Index for Site Construction, National Average, based on a previous three (3) year average.

The bond calculation shown below reflects an escalation period of three (3) and five (5) years as identified by the bordered table elements (2010 and 2012). The escalation factor of 1.032¹ has been applied to each successive year in the table. Small mine bond amounts will be recalculated annually for the subsequent three (3) year and five (5) year period for escalation purposes. The surety amounts recommended are estimated costs² for regrading, topsoil placement, roughening and seeding. The first acre cost includes a mobilizing/demobilizing³ cost for one piece of equipment. An overview for mobilizing/demobilizing costs is identified in Attachment A.

The following is a table of escalated costs⁴ through the year of 2012:

<u>Year</u>	<u>First Acre</u>	<u>Each additional acre</u>
2007	\$5400**	\$3400**
2008	\$5600**	\$3500**
2009	\$5800**	\$3600**
2010	\$5900**	\$3700**
2011	\$6100**	\$3900**
2012	\$6300**	\$4000**

**These costs may change annually due to changes in escalation factor.

1 - February 13, 2007 DOGM memo, Escalation Factor 2007

2 - Costs include labor, equipment, materials, overhead & profit based on large mine data averages

3 - Mobilizing/demobilizing costs are \$2000.00 with detail in attachment A

4 - Dollar amount have been rounded to the nearest 100

Exploration Notices

It is suggested that Operators have a choice regarding escalation on a three (3) or five (5) year interval. The Minerals program with existing staff can manage this choice.

Notices expire one year following the year of submittal, therefore the 2007 rates time period will be effective for any submitted Notices from January through December 2007. Any submitted notices received the first quarter 2008 (January through March) will use the 2008 rate as shown on the table of escalated costs through the year 2012. The following per acre costs will be used for the calendar year 2007:

Year	First Acre	Each additional acre
2007	\$5400	\$3400

Project Size (Acres)	Surety (\$ Amount-2007)	Comments
1 or less acres	\$5400 (includes \$2000 mob/demob charge)	Minimum surety required
Each additional acre	\$3400 per acre (No restriction on acreage)	Partial acreages are rounded up to next highest # (no maximum \$ amount)
Drilling (dry)	\$200.00 [*] /hole	In addition to above costs
Drilling (wet)	\$5000 Mob/de-mob charge [*] plus \$4.50 per foot [*]	In addition to above costs Mob/demob charge is per project.

* see Attachment A

Small Mining Operation Notices

NOTE: A 5-acre disturbed area threshold applies to all small mining notices. Mining operations that exceed 5 acres will have surety calculated as Large Mining Operations according to their approved mining and reclamation plan. If disturbance exceeds five acres prior to an approved mining and reclamation plan, the cost per acre for small mine operations will be implemented until the plan is approved, at which time the surety amount will be adjusted if required.

Project Size (Acres)	Surety (\$ Amount-2010)	Comments
1 or less acres	\$5900	Minimum amount required
Additional acres up to 5 acres	\$3700/ acre (i.e. Maximum of 5 acres = \$5900 + \$14800 = \$20,700)	Partial acreages rounded up (e.g., 1.2 acres = 2 acres)

Surety Cost Estimating
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Project Size (Acres)	Surety (\$ Amount-2012)	Comments
1 or less acres	\$6300	Minimum amount required
Additional acres up to 5 acres	\$4000/ acre (i.e. Maximum of 5 acres = \$6300 +\$16000 = \$22,300)	Partial acreages rounded up (e.g., 1.2 acres = 2 acres)

These costs will be RELEASED and implemented annually April 1.

Attachment A

Mobilization/Demobilization (mob/demob):

This cost is to move one piece of construction equipment from a contractors yard or rental company to the permit site and back.

Equipment:

Information gleaned from Means, 2006 Heavy Construction Cost Data. In addition, telephone conversation with Karl at Wheeler Transport in Salt Lake City on March 22, 2007 has resulted in the following costs for a CAT D-6 and CAT D-8:

Distance Traveled (R/T)	Costs (for 140 mile R/T)	O&P (for labor and equipment)	Total
140 miles – D6	\$1690.00	10%	\$1859.00
140 miles – D8	\$1820.00	10%	\$2002.00 (\$2442.00 inc. CV & O&P)

The CAT D-8 may have some factors affecting costs such as equipment disassembly, standby time and permit requirements, resulting in unavoidable cost variations (CV). It is reasonable to apply a measure of judgment to this cost and increase the total for the mob and demob of the D8 by 20% (\$400.00). Including O&P, this value increases to \$440.00.

Distance Traveled:

Seven cities within the state have been identified as equipment pick up points. These seven cities were selected based on relative equal-distance and reasonable access. They are: Salt Lake City, Ogden, Vernal, Delta, Green River, Cedar City, and Blanding. It is reasonable to conclude other locales would have the appropriate equipment available, therefore reducing the number of miles to and from the mine site. Based on the seven cities, 85% of mine sites are within 140 miles round trip of the closest city relative to their location.

The existing \$2000.00 is not considered an average since the majority of the mine sites fall within a 140 mile round trip distance. It is recommended further evaluation is necessary to estimate and determine an average mob/demob cost that is most representative of the conditions. Until further evaluation, the existing mob/demob cost of \$2000.00 is used and escalated.

Drill Hole Information:

Currently the costs associated with wet and dry hole drilling are \$200.00/dry hole and \$4.50/ft/wet hole. The wet hole has a mob-demob cost of \$5000.00. The data behind

Attachment A to 2007 Reclamation Surety Costs for Exploration and Small Mining Operations

these numbers has not been identified, therefore it is suggested that a cost basis be determined. Since holes vary in depth and diameter, the overall costs are variable, with a typical cost increase of 20% when the hole diameter doubles. Material costs associated with plugging will increase by an order of magnitude when hole diameter increases by a factor of four. It can be assumed that a drill rig is required for holes greater than 600 ft., but a portable grout plant may be used for holes less than 600 ft in depth. Further information must be obtained to establish a reliable and thorough cost system that is accurate and reasonable. At this time, for the year 2007, the costs for 2006 will be used without adjustments for escalation pending the results of the cost basis.